

X-ray Structure Determination

A PRACTICAL GUIDE

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EXHIBIT A

In Memoriam
A. L. PATTERSON

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54 Symmetry Operations and Space Groups

[Ch. 3]

Table 3.2 Space Groups in Standard Orientations*

System	Point groups	Space groups	Fraction
Triclinic	1	P1	1/2
	1	P1	
Monoclinic	2	P2 ₁	1/4
	m	Pc	
	2/m	P2/m	
Orthorhombic	222	P2 ₂ ₂ ₂	1/8
	mm2	P2 ₁	
		P2 ₁	
		P2 ₁ /m	
		C2	
		Cm	
		C2/m	
	mmm	P2 ₁ /c	
		Cc	
		P2 ₁ /c	
		C2/c	
		C2/c	
		C2/c	
Tetragonal	4	P4 ₁	1/8
	2	P4 ₂	
		P4 ₁	
		P4 ₂ /m	
	4/m	P4 ₁ /m	
		P4 ₂ /m	
		P4 ₁ /m	
	422	P4 ₁	
		P4 ₂	
		P4 ₁ /m	
		P4 ₂ /m	
		P4 ₁ /m	
		P4 ₂ /m	
Tetragonal	4/m	P4 ₁ /m	1/8
		P4 ₂ /m	
		P4 ₁ /m	
	422	P4 ₁	
		P4 ₂	
		P4 ₁ /m	
	4/m	P4 ₁ /m	
		P4 ₂ /m	
		P4 ₁ /m	
		P4 ₂ /m	
		P4 ₁ /m	
		P4 ₂ /m	

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